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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,374	02/27/2002	Takuma Makino	WATK:178A	5854

6160 7590 02/27/2003

PARKHURST & WENDEL, L.L.P.  
1421 PRINCE STREET  
SUITE 210  
ALEXANDRIA, VA 22314-2805

EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/083,374

Applicant(s)  
Makino et al.

Examiner  
M. Alexandra Elve

Art Unit  
1725



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/238,731.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

Art Unit: 1725

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al. (US Pat. 5,561,321).

Hirano et al. discloses a composite substrate which is a bonded (adhesive) structure. The composite substrate is made up of an ceramic (alumina) substrate, a metallic layer, and copper sheets bonded to the alumina substrate via the metallic layer. The ceramic body is sintered. Silver, copper and nickel are used in the composite. The difference between the thermal expansion coefficients of the sintered ceramic body and the metallic layer is reduced at the bonding interface of the two elements, which leads to reducing the thermal stresses produced at that interface because of that difference when the composite structure is subject to temperatures; that is, thermal stresses are negated or at least minimized. The ceramic metal composite structure is characterized by including a metalizing step of forming one a surface of at least a portion of a sintered ceramic body, a porous metallic layer using a high melting point metal that the porosity of the metallic layer continuously or stepwise increases with distances from the surface of the sintered ceramic

Art Unit: 1725

body, the metallic layer having a multiplicity of externally open pores. Impregnating comprises a step of forming a layer of the copper or silver/copper based alloy on a surface of the metallic layer opposite to the surface thereof bonded to the sintered ceramic body. Ceramics may be alumina, calcium oxide, magnesium oxide, silicon dioxide and so forth. The composite may be bonded using silver/copper and further titanium brazing filler. Additionally, a nickel layer may be plated on the pore defining internal surfaces. Electroless nickel plating may be used. Many other materials may be used in the making of the composite/adhesive structure these are listed in following area: col. 21, lines 50-67, cols. 22-24 in their entirety and col. 25, lines 1-2.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al., as stated in paragraph 2, above.

Art Unit: 1725

Hirano et al. does not disclose the composite member for gas separation tubes. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to shape, size or form the prior art alloy any shape, size or form, because change of shape, size and form has been held an obvious variant in any art. See In re Rose 105 USPQ 137.

### *Conclusion*


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See US PTO-892.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is (703) 308-0092. The examiner can normally be reached Monday to Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, tom Dunn, can be reached on (703) 308-3318.

Any inquiry of general nature to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0661.

February 24, 2003.

  
M. ALEXANDRA ELVE  
PRIMARY EXAMINER